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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,859	12/03/2004	Casimir Johan Crawley	PU020269	7325

7590 05/29/2009
Joseph S Tripoli
Thomson Licensing Inc
PO Box 5312
Princeton, NJ 08543-5312

EXAMINER

HU, RUI MENG

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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05/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/516,859	Applicant(s) CRAWLEY, CASIMIR JOHAN	
	Examiner RuiMeng Hu	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of a request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e) and a submission, filed on 03/16/2009.

Response to Arguments

1. Applicant's arguments filed on 03/16/2009 have been fully considered but they are not persuasive.

Regarding claims 1, 7 and 12, Applicant argues that the applied references fail to disclose “the decoder is reset and reinitialized throughout a period of transmission idleness at a transmitter source until a transmission signal is received”.

The Examiner respectfully submits that according to paragraph 4 and figure 2 of the present invention, one of ordinary skilled in the art would realize EFM decoder 22 operates to decode EFM modulated data only during communications that is when receiving EFM modulated data from a transmitter, thus a phase lock loop in the EFM decoder operates only when the EFM data is present (during communications that is when receiving EFM modulated data from the transmitter). Therefore, the limitation “the decoder is reset and reinitialized throughout a period of transmission idleness at a transmitter source until a transmission signal is received” is read as the decoder is reset and reinitialized when a transmission signal is received after a period of transmission idleness at a transmitter source. Such idleness presents between two separate communications. Thus Sakamoto discloses (figures 2 and 4, column 7 lines 18-

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6, column 1 lines 10-60) a RF receiver of a QPSK telecommunication system comprising: an automatic phase lock loop (PLL) 16 in QPSK signal demodulation continuously detecting for an unlocked state, and in response to the unlocked state, PLL 16 automatically corrects (resets) phase-lock in QPSK signal demodulation. PLL 16 is in operating state for all time during data reception and demodulation. It can be easily realized that at the start of a subsequent data reception after a period of non-communication (idleness), once a transmission QPSK modulation signal is received, PLL 16 is automatically established; and PLL 16 re-initializes phase lock in QPSK signal demodulation. Thus Sakamoto discloses the decoder (QPSK demodulator 14) is reset and reinitialized throughout a period of transmission idleness until a transmission signal is received (during the subsequent data reception).

Sakamoto fails to disclose the signal is audio file signal and signal transmission idleness at a transmitter source.

It is well known in the art that PCM is the standard form for digital audio.

In the same field of endeavor, Zugert et al. disclose a short range wireless digital audio transmission system comprising a transmitter for transmitting QPSK modulation audio signal (figure 2, QPSK 72) and a receiver (figure 7) for receiving and demodulating QPSK modulation signal and for processing digital audio data. From column 1 lines 11-16, it can be easily realized that the system can be OFF or ON for communication, thus a non-communication (idleness) period presents between two communications, and during the non-

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communication (idleness) period, the transmitter does not transmit audio data to the receiver.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Zuqert et al. into the art of Sakamoto as to process digital audio data in a short range wireless communication system.

Response to Amendment

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. **Claims 1-3, 5, 6, 12-14, 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakamoto (US Patent 4940951)** in view of **Zuqert et al. (US 6466832)**.

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Consider **claim 1**, Sakamoto disclose apparatus comprising: a receiver (figure 4, PLL 16, column 3 line 58-column 4 line 10, column 7 lines 18-61) for receiving an signal; a decoder (figure 4, QPSK demodulator 14 and PCM decoder 20) for demodulating said signal; and a processor (figure 4, column 3 lines 65-68, a detection circuit and the PLL circuit) configured to poll (continuously detecting for an unlocked state) said decoder for a loss of a phase lock loop in said demodulating of said signal to detect audio file signal loss between the receiver and a transmitter (an unlocked state to be detected when the signal loss in transmission), wherein the processor is further configured to, in response to said loss in said phase lock loop, automatically reset and reinitialize said decoder throughout a period of signal transmission idleness until a transmission signal is received and a phase lock loop is established (figures 2 and 4, PLL 16 is established during the subsequent communication).

Sakamoto fails to disclose the signal is audio file signal and signal transmission idleness at a transmitter source.

It is well known in the art that PCM is the standard form for digital audio.

In the same field of endeavor, Zuqert et al. disclose a short range wireless digital audio transmission system comprising a transmitter for transmitting QPSK modulation audio signal (figure 2, QPSK 72) and a receiver (figure 7) for receiving and demodulating QPSK modulation signal and for processing digital audio data. From column 1 lines 11-16, it can be easily realized that the system can be OFF or ON for communication, thus a non-communication (idleness) period presents between two communications, and during the non-

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communication (idleness) period, the transmitter does not transmit audio data to the receiver.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Zuqert et al. into the art of Sakamoto as to process digital audio data in a short range wireless communication system.

Consider **claim 2 as applied to claim 1**, Sakamoto as modified discloses wherein said processor resets and reinitializes said decoder in response to said loss in said phase lock loop such that seamless playing of audio files is maintained (figure 4, the PLL circuit 16 resets demodulator 14 via signal P2).

Consider **claim 3 as applied to claim 1**, Sakamoto as modified fail to disclose wherein said receiver comprises 900 MHz radio frequency reception circuitry.

In the same field of endeavor, Zuqert et al. disclose a wireless receiver comprises 900 MHz radio frequency reception circuitry and capable of receiving CD digital audio signals (figure 7, Summary of the Invention).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Zuqert et al. into the art of Sakamoto as modified as to include a 900 MHz radio frequency reception circuitry to receive digital audio signals wirelessly for increasing system dynamic.

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Consider **claim 5 as applied to claim 1**, Sakamoto as modified discloses wherein said decoder outputs a digital audio stream (figure 4, output of PCM decoder 20).

Consider **claim 6 as applied to claim 5**, Sakamoto as modified fail to disclose wherein said digital audio stream conforms to an I2S audio stream. However, official notice is taken that I2S is used for digital electronic devices is well known in the art. Therefore, it would have been obvious to use I2S interface to correspond the existing digital audio stream, and output stereo.

Consider **claim 12**, see response to claim 1.

Consider **claim 13 as applied to claim 12**, see response to claim 2.

Consider **claim 14 as applied to claim 12**, see response to claim 3.

Consider **claim 16 as applied to claim 12**, see response to claim 5.

Consider **claim 17 as applied to claim 16**, see response to claim 6.

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakamoto (US Patent 4940951)** as modified by **Zuqert et al. (US 6466832)** in view of **Bowles (US Patent 6389548)**.

Consider **claim 4 as applied to claim 1**, Sakamoto as modified fail to disclose said decoder comprises an eight to fourteen modulation EFM decoder.

Such teaching is well known in the art. Bowles discloses a decoder comprises an eight to fourteen modulation EFM decoder (figure 3, EFM Demodulator 38).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Bowles into the art of Sakamoto as modified as to process music audio file signals.

Consider **claim 15 as applied to claim 12**, see response to claim 4.

Claims 7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakamoto (US Patent 4940951)** in view of **Zuqert et al. (US 6466832)**.

Consider **claim 7**, Sakamoto discloses a receiver (figure 4, PLL 16, column 3 line 58-column 4 line 10, column 7 lines 18-61) performs the steps of: receiving a modulated (QPSK modulated) signal; demodulating said modulated signal (QPSK demodulation); polling (continuously detecting for an unlocked state) said demodulating for a loss in a phase lock loop in said demodulating to detect signal loss between a receiver and a transmitter (an unlocked state to be detected when the signal loss in transmission); and automatically resetting and reinitializing said demodulating in response to said loss in said phase lock loop throughout a period of signal transmission idleness at a transmitter source until a transmission signal is received and a phase lock loop is established such that seamless playing of signal files is maintained (figure 4, PLL 16 is established during the subsequent communication and PLL 16 resets demodulator 14 via signal P2).

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Sakamoto fails to disclose the signal is audio file signal and signal transmission idleness at a transmitter source.

It is well known in the art that PCM is the standard form for digital audio.

In the same field of endeavor, Zuqert et al. disclose a short range wireless digital audio transmission system comprising a transmitter for transmitting QPSK modulation audio signal (figure 2, QPSK 72) and a receiver (figure 7) for receiving and demodulating QPSK modulation signal and for processing digital audio data. From column 1 lines 11-16, it can be easily realized that the system can be OFF or ON for communication, thus a non-communication (idleness) period presents between two communications, and during the non-communication (idleness) period, the transmitter does not transmit audio data to the receiver.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Zuqert et al. into the art of Sakamoto as to process digital audio data in a short range wireless communication system.

Sakamoto fails to disclose a computer readable medium containing software instructions that, when executed by a processor perform the above steps. The teaching of a computer readable medium containing software instructions to be processed by a processor is well known in the art.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques

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into the art of Sakamoto as to make it into a program to be processed by a processor.

Consider **claim 9 as applied to claim 7**, Sakamoto as modified fail to disclose receiving is synchronized to a 900 MHz range carrier frequency modulated by said audio file signal.

In the same field of endeavor, Zuqert et al. disclose receiving is synchronized to a 900 MHz range carrier frequency modulated by said audio file signal (figure 7, Summary of the Invention, column 16 lines 58-60).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Zuqert et al. into the art of Sakamoto as modified as to include a 900 MHz radio frequency reception circuitry to receive digital audio signals wirelessly for increasing system dynamic.

Consider **claim 10 as applied to claim 7**, Sakamoto as modified discloses wherein said decoder outputs a digital audio stream (figure 4, output of PCM decoder 20).

Consider **claim 11 as applied to claim 7**, Sakamoto as modified discloses wherein said polling is carried out by a processor (figure 4, the detection circuit and the PLL circuit).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sakamoto (US Patent 4940951)** as modified by **Zuqert et al. (US 6466832)** in view of **Bowles (US Patent 6389548)**.

Consider **claim 8 as applied to claim 7**, Sakamoto as modified fail to disclose demodulating is a digital eight to fourteen modulation digital decoding.

Such teaching is well known in the art. Bowles discloses a decoder comprises an eight to fourteen modulation EFM decoder (figure 3, EFM Demodulator 38).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Bowles into the art of Sakamoto as modified as to process music audio file signals.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory

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action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed**

to: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public

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/RuiMeng Hu/
R.H./rh
May 23, 2009

/Lana N. Le/
Primary Examiner, Art Unit 2614